Docket No.: 46030/P045US/10407184
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Timothy E. Ostromek et al.

Application No.: 10/759,959 Confirmation No.: 8182

Filed: January 16, 2004 Art Unit: 2622

For: COMBINING MULTIPLE SPECTRAL BANDS TO GENERATE AN IMAGE Examiner: A. H. Cutler

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

As required under 37 C.F.R. § 41.37(a), this brief is filed within two months of the Notice of Appeal filed in this case concurrently herewith on June 19, 2009, and is in furtherance of said Notice of Appeal.

The fees required under 37 C.F.R. § 41.20(b)(2) are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1206:

I.	Real Party In Interest
II	Related Appeals and Interferences
III.	Status of Claims
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V.	Summary of Claimed Subject Matter
VI.	Grounds of Rejection to be Reviewed on Appeal
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VIII.	Claims Appendix
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I. REAL PARTY IN INTEREST

The real party in interest for this appeal is:

L-3 Communications Corporation, a Delaware corporation, having a business address of 10001 Jack Finney Boulevard, Greenville, Texas 75402.

II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 19 claims pending in the application.

B. Current Status of Claims

1. Claims canceled: 4, 10, and 16
2. Claims withdrawn from consideration but not canceled: None
3. Claims pending: 1-3, 5-9, 11-15, and 17-22
4. Claims allowed: None
5. Claims rejected: 1-3, 5-9, 11-15, and 17-22

C. Claims On Appeal

The claims on appeal are claims 1-3, 5-9, 11-15, and 17-22.

IV. STATUS OF AMENDMENTS

Appellant did not file an amendment in response to the Final Office Action of April 8, 2009.

V. SUMMARY OF CLAIMED SUBJECT MATTER

A concise explanation of the subject matter defined in each of the claims separately argued in this appeal, which refers to the specification and to the drawings by reference characters, is provided below. All references to the specification and drawings are made by way of example for the convenience of the Board, as it is possible that other areas of the specification and drawings may contain further descriptive material. No limitations on the meaning of the following claim language is intended.

According to claim 1, a method for generating an image comprises receiving light associated with a plurality of spectral bands (*e.g.*, 100 of FIGURE 4 and page 10, lines 23-24, page 5, lines 13-25), and repeating the following for each spectral band associated with the light, receiving an electrical signal at an electro-optical element (*e.g.*, 22 of FIGURE 1, page 5, line 27-page 6, line 2), changing an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band (*e.g.*, page 6, lines 7-32), and transmitting the spectral band to a sensor (*e.g.*, page 7, line 12-page 8, line 4). The method further includes sensing the spectral bands at the sensor and combining the spectral bands to generate a composite signal (*e.g.*, 104 and 108 of FIGURE 4, page 7, line 12-page 8, line 18). Combining the spectral bands to generate the composite signal comprises accessing a function of the spectral bands (*e.g.*, page 8, lines 5-18), multiplexing the spectral bands in accordance with the function to combine the spectral bands (*e.g.*, 108 of FIGURE 4, page 8, lines 5-18), the function causing said spectral bands to be combined using at least one of: adding and weighted combining (*e.g.*, page 8, lines 5-18), and generating an image from the composite signal (*e.g.*, 110 of FIGURE 4 and page 8, line 19-page 9, line 11).

According to independent claim 7, a system (10 of FIGURE 1) for generating an image comprises an electro-optical element (*e.g.*, 22 of FIGURE 1) operable to receive light associated with a plurality of spectral bands (*e.g.*, page 5, lines 13-25) and repeats the following for each spectral band associated with the light: receive an electrical signal (*e.g.*, page 5, line 27-page 6, line 2), change an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band (*e.g.*, page 6, lines 7-32) and transmit the spectral band to a sensor (*e.g.*, page 7, line 12-page 8, line 4). The system also includes a sensor (*e.g.*, 24 of FIGURE 1 and page 7, line 12-page 8, line 4) coupled to the

electro-optical element and operable to sense the spectral bands, as well as an image processing module (*e.g.*, 26 of FIGURE 1 and page 8, lines 5-18) coupled to the sensor. This image processing module is operable to combine the spectral bands to generate a composite signal by accessing a function of the spectral bands (*e.g.*, page 8, lines 5-18) and multiplexing the spectral bands in accordance with the function to combine the spectral bands. This function is selected from a list consisting of an adding function, a dividing function, and a weighting function (*e.g.*, page 8, lines 5-18). In addition, the system includes a display module coupled to the image processing module and operable to generate an image from the composite signal (*e.g.*, 30 of FIGURE 1 and page 8, line 19-page 9, line 11).

According to independent claim 13, a logic for generating an image and embodied in a medium (*e.g.*, page 9, lines 21-24) and operable to receive light associated with a plurality of spectral bands (*e.g.*, 100 of FIGURE 4 and page 10, lines 23-24, page 5, lines 13-25), which repeats the following for each spectral band associated with the light: receive an electrical signal at an electro-optical element (*e.g.*, 22 of FIGURE 1, page 5, line 27-page 6, line 2), change an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band (*e.g.*, page 6, lines 7-32); and transmit the spectral band to a sensor (*e.g.*, page 7, line 12-page 8, line 4). The logic senses the spectral bands at the sensor (*e.g.*, 104 of FIGURE 4, page 7, line 12-page 8, line 18) and combines the spectral bands to generate a composite signal by accessing a function of the spectral bands and multiplexing the spectral bands in accordance with the function to combine the spectral bands This function causes said spectral bands to be combined using at least one of: adding and weighted combining (*e.g.*, 108 of FIGURE 4, page 8, lines 5-18). The logic also generates an image from the composite signal (*e.g.*, page 8, line 19-page 9, line 11), wherein said medium comprises hardware (*e.g.*, page 9, lines 21-24).

According to independent claim 19, a system for generating an image (*e.g.*, 10 of FIGURE 1) comprises a means for receiving light associated with a plurality of spectral bands (*e.g.*, 22 of FIGURE 1 and page 6, line 7-page 7, line 11) and a means for repeating the following for each spectral band associated with the light (*e.g.*, 22 and 20 of FIGURE 1, page 6, line 7-page 7, line 11, and page 5, line 30-page 6, line 6): receiving an electrical signal at an electro optical element (*e.g.*, page 5, lines 13-25), changing an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band (*e.g.*, page 6, lines 7-32) and transmitting the spectral band to a sensor (*e.g.*, page 7, line 12-page 8, line 4). The system also contains a means for sensing the spectral bands at the sensor (*e.g.*, 24 of FIGURE 1 and page 7, line 12-page 8, line 4 and page 9, lines 12-24), as well as a means for combining the spectral bands to generate a composite signal (*e.g.*, 26 of FIGURE 1 and page 8, lines 5-18 and page 9, lines 12-24). The means for combining the spectral bands to generate the composite signal comprises means for accessing a function of the spectral bands (*e.g.*, 26 of FIGURE 1 and page 8, lines 5-18 and page 9, lines 12-24) and means for multiplexing the spectral bands in accordance with the function to combine the spectral bands. This function selected from a list consisting of an adding function, a dividing function, and a weighting function (*e.g.*, 26 of FIGURE 1 and page 8, lines 5-18 and page 9, lines 12-24). The system also comprises a means for generating an image from the composite signal (*e.g.*, 30 of FIGURE 1, page 8, line 19-page 9, line 11).

According to independent claim 20, a method for generating an image comprises receiving light associated with a plurality of spectral bands (*e.g.*, 100 of FIGURE 4 and page 10, lines 23-24, page 5, lines 13-25) and repeating the following for each spectral band associated with the light: receiving an electrical signal at an electro optical element, comprised of a first layer sensitive to a first spectral band of the spectral bands, and a second layer sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first layer and to activate the second layer, the electro-optical element further comprising a first section sensitive to a first spectral band of the spectral bands, and comprising a second section sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first section and to activate the second section (FIGURES 2A-C and page 9, line 25-page 10, line 9); changing an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band (*e.g.*, page 6, lines 7-32) and transmitting the spectral band to a sensor (*e.g.*, page 7, line 12-page 8,

line 4). The method also includes sensing the spectral bands at the sensor, the sensor synchronized with the electro-optical element, the sensor being operable to sense a spectral band when the spectral band arrives at the sensor from the electro-optical element (*e.g.*, page 7, lines 25-28) and combining the spectral bands to generate a composite signal by accessing a function of the spectral bands, and by multiplexing the spectral bands in accordance with the function to combine the spectral bands, the function causing said spectral bands to be combined using at least one of: adding and weighted combining (*e.g.*, page 8, lines 5-18). In addition, the system comprises generating an image from the composite signal by receiving the composite signal, which is associated with a plurality of display spectral bands and repeating the following for each display spectral band associated with the composite signal: sending a display electrical signal to a display electro-optical element, changing an optical property of the display electro-optical element in response to the display electrical signal to filter for a display spectral band, and transmitting the display spectral band to a display (*e.g.*, page 9, lines 6-11). The system also includes displaying the display spectral bands at the display to generate the image (*e.g.*, page 8, line 19-page 9, line 11).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

First Ground of Rejection – Claims 1, 5, 7, 11, 13, 17, and 19 are rejected under 35 U.S.C. § 102(b) as being anticipated by EP 1051045 (hereinafter *Daly*).

Second Ground of Rejection – Claims 21 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Daly* in view of US 5,936,245 (hereinafter *Goillot*).

Third Ground of Rejection – Claims 2, 3, 8, 9, 14, and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Daly* in view of US 5,528,295 (hereinafter *Wagner*).

Fourth Ground of Rejection – Claims 6, 12, and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Daly* in view of US 5,347,378 (hereinafter *Handschy*).

Fifth Ground of Rejection – Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Daly* in view of *Wagner*, and further in view of *Handschy*.

VII. ARGUMENT

A. First Ground of Rejection

Claims 1, 5, 7, 11, 13, 17, and 19 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Daly*. Appellant respectfully requests that the rejection be reversed at least because of the reasons articulated below.

To anticipate a claim under 35 U.S.C. § 102, a reference must teach every element of the claim. M.P.E.P. § 2131. Moreover, in order for an applied reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." M.P.E.P. § 2131 (citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989)). As discussed further below, these requirements are not satisfied by the 35 U.S.C. § 102 rejection because *Daly* does not teach every element of the claims in as much detail as is contained in the claims.

For instance, claim 1 recites, in part, "said function causing said spectral bands to be combined using at least one of: adding and weighted combining." *Daly* does not teach this feature of claim 1. *Daly*'s deficiency is implicitly acknowledged by the rejection, which states:

> Daly teaches that the different spectral bands (i.e. fields) are combined to create a frame in a field to frame combiner (118, figure 8, column 11, line 57 through column 12, line 1). The Examiner interprets this combining to be adding individual fields to create a composite frame. Thus, the spectral bands are combined using at least one of: adding.

Final Action at 5. The above-recited reasoning of the rejection is an attempt to read more into *Daly* than what *Daly* discloses. For a 35 U.S.C. § 102 rejection to be proper, the reference must teach the invention in as much detail as is contained in the claim. M.P.E.P. § 2131 (citing *Richardson*, 9 U.S.P.Q.2d at 1920). Claim 1 not only recites combining, but it also goes into an additional level of detail by reciting at least two possible techniques to perform combining (adding and weighted combining). *Daly*, on the other hand, merely discloses combining and does not disclose any particular technique for combining by the field to frame combiner 118 of Figure 8. *Daly* just simply does not teach combining spectral bands using adding (or weighting combining), and, try as it may, the rejection cannot fill in

the gap in *Daly*. For at least this reason, *Daly* fails to teach the above-recited feature of claim 1.

In Response to Appellant's showing that *Daly* fails to teach the above-recited feature of claim 1, the Final Rejection states:

> The Examiner disagrees that this interpretation reads more into Daly than what Daly discloses. Daly teaches combining three separate fields to create one frame (i.e., that three separate fields are added into a frame). This does not imply that the three fields are added to each other, but rather simply that they are added into a frame, and Daly does not explicitly teach that any sort of weighting is performed on the field images.

Final Action at 3.[1] Thus, the rejection still asserts that *Daly's* combining fields into a frame includes adding the fields. Such assertion is improper. *Daly* does not teach that combining fields into a frame includes adding fields. Furthermore, the rejection does not explain how it comes to the conclusion that *Daly's* combining is additive, as opposed to being based upon some other transform. The rejection provides no more than speculation and assumption regarding *Daly's* undescribed combining algorithm, and speculation and assumption do not support anticipation under 35 U.S.C. § 102.

The claims in the application have different scopes. Nevertheless, independent claims 7, 13, and 19 include features that are not taught by *Daly* at least for the reason articulated above with respect to claim 1.

As shown above, independent claims 1, 7, 13, and 19 include features that are not taught by *Daly*. Dependent claims 5, 11, and 17 each depend either directly or indirectly from respective independent claims and, thus, inherit all of the limitations of their respective independent claims. Thus, *Daly* does not teach all claim limitations of claims 5, 11, and 17. It is respectfully submitted that dependent claims 5, 11, and 17 are allowable at least because of their dependence from their respective base claims for the reasons discussed above.

[1] The Final Rejection also makes some assertions regarding interpretation of the claim language. Final Action at 3. Appellant does not admit that the Examiner's interpretations are correct, but instead points out that such interpretations are a red herring—no matter how "adding" and "weighted combining" are interpreted, Daly does not go into a sufficient level of detail to teach such concepts.

Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 102 rejection of claims 1, 5, 7, 11, 13, 17, and 19.

B. Second Ground of Rejection

Claims 21 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Daly* in view of *Goillot*. Appellant respectfully requests that the rejection be reversed at least because of the reasons articulated below.

As shown above, independent claims 1 and 7 include features that are not taught by *Daly*. Dependent claims 21 and 22 each depend either directly or indirectly from respective independent claims 1 and 7 and, thus, inherit all of the limitations of their respective independent claims. Thus, *Daly* does not teach or suggest all claim limitations of claims 21 and 22. The rejection does not rely on *Goillot* to supply the features shown above to be missing from *Daly*, nor does it appear that the cited portions of *Goillot* supply those missing features. It is respectfully submitted that dependent claims 21 and 22 are allowable at least because of their dependence from their respective base claims for the reasons discussed above. Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 103 rejection of claims 21 and 22.

C. Third Ground of Rejection

Claims 2, 3, 8, 9, 14, and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Daly* in view of *Wagner*. Appellant respectfully requests that the rejection be reversed at least because of the reasons articulated below.

As shown above, independent claims 1, 7, and 13 include features that are not taught by *Daly*. Dependent claims 2-3, 8-9, and 14-15 each depend either directly or indirectly from respective independent claims 1, 7, and 13 and, thus, inherit all of the limitations of their respective independent claims. Thus, *Daly* does not teach or suggest all claim limitations of claims 2-3, 8-9, and 14-15. The rejection does not rely on *Wagner* to supply the features shown above to be missing from *Daly*, nor does it appear that the cited portions of *Wagner* supply those missing features. It is respectfully submitted that dependent claims 2-3, 8-9, and 14-15 are allowable at least because of their dependence from their respective base claims for

the reasons discussed above. Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 103 rejection of claims 2-3, 8-9, and 14-15.

D. Fourth Ground of Rejection

Claims 6, 12, and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Daly* in view of *Handschy*. Appellant respectfully requests that the rejection be reversed at least because of the reasons articulated below.

As shown above, independent claims 1, 7, and 13 include features that are not taught by *Daly*. Dependent claims 6, 12, and 18 each depend either directly or indirectly from respective independent claims 1, 7, and 13 and, thus, inherit all of the limitations of their respective independent claims. Thus, *Daly* does not teach or suggest all claim limitations of claims 6, 12, and 18. The rejection does not rely on *Handschy* to supply the features shown above to be missing from *Daly*, nor does it appear that the cited portions of *Handschy* supply those missing features. It is respectfully submitted that dependent claims 6, 12, and 18 are allowable at least because of their dependence from their respective base claims for the reasons discussed above. Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 103 rejection of claims 6, 12, and 18.

E. Fifth Ground of Rejection

Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Daly* in view of *Wagner*, and further in view of *Handschy*. Appellant respectfully requests that the rejection be reversed at least because of the reasons articulated below.

The claims in the application have different scopes. Nevertheless, independent claim 20 includes features that are not taught by *Daly* at least for the reason articulated above with respect to claim 1. The rejection does not rely on *Wagner* or *Handschy* to supply the features shown above to be missing from *Daly*, nor does it appear that the cited portions of *Wagner* or *Handschy* supply those missing features. Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 103 rejection of claim 20.

VIII. CLAIMS APPENDIX

A copy of the claims involved in the present appeal is attached hereto as Appendix A.

IX. EVIDENCE APPENDIX

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

X. RELATED PROCEEDINGS APPENDIX

No related proceedings are referenced in II. above, hence copies of decisions in related proceedings are not provided.

Dated: June 19, 2009

Respectfully submitted,

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APPENDIX A

The claims on appeal (*i.e.*, not including withdrawn or canceled claims) are as follows:

1. A method for generating an image, comprising:

receiving light associated with a plurality of spectral bands;

repeating the following for each spectral band associated with the light:

receiving an electrical signal at an electro-optical element;

changing an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band; and

transmitting the spectral band to a sensor;

sensing the spectral bands at the sensor;

combining the spectral bands to generate a composite signal, wherein combining the spectral bands to generate the composite signal comprises:

accessing a function of the spectral bands; and

multiplexing the spectral bands in accordance with the function to combine the spectral bands, said function causing said spectral bands to be combined using at least one of: adding and weighted combining; and

generating an image from the composite signal.

2. The method of Claim 1, wherein the electro-optical element comprises:

a first layer sensitive to a first spectral band of the spectral bands; and

a second layer sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first layer and to activate the second layer.

3. The method of Claim 1, wherein the electro-optical element comprises:

a first section sensitive to a first spectral band of the spectral bands; and

a second section sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first section and to activate the second section.

5. The method of Claim 1, wherein the sensor is synchronized with the electro-optical element, the sensor being operable to sense a spectral band when the spectral band arrives at the sensor from the electro-optical element.

6. The method of Claim 1, wherein generating the image from the composite signal comprises:

receiving the composite signal, the composite signal associated with a plurality of display spectral bands;

repeating the following for each display spectral band associated with the composite signal:

sending a display electrical signal to a display electro-optical element;

changing an optical property of the display electro-optical element in response to the display electrical signal to filter for a display spectral band; and

transmitting the display spectral band to a display; and

displaying the display spectral bands at the display to generate the image.

7. A system for generating an image, comprising:

a electro-optical element operable to:

receive light associated with a plurality of spectral bands;

repeat the following for each spectral band associated with the light:

receive an electrical signal;

change an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band; and

transmit the spectral band to a sensor;

a sensor coupled to the electro-optical element and operable to sense the spectral bands;

an image processing module coupled to the sensor and operable to combine the spectral bands to generate a composite signal, wherein the image processing module combines the spectral bands to generate the composite signal by:

accessing a function of the spectral bands; and

multiplexing the spectral bands in accordance with the function to combine the spectral bands, said function selected from a list consisting of: an adding function, a dividing function, and a weighting function; and

a display module coupled to the image processing module and operable to generate an image from the composite signal.

8. The system of Claim 7, wherein the electro optical element comprises:

a first layer sensitive to a first spectral band of the spectral bands; and

a second layer sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first layer and to activate the second layer.

9. The system of Claim 7, wherein the electro-optical element comprises:

a first section sensitive to a first spectral band of the spectral bands; and

a second section sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first section and to activate the second section.

11. The system of Claim 7, wherein the sensor is synchronized with the electro-optical element, the sensor being operable to sense a spectral band when the spectral band arrives at the sensor from the electro-optical element.

12. The system of Claim 7, wherein the display module is operable to generate the image from the composite signal by:

receiving the composite signal, the composite signal associated with a plurality of display spectral bands;

repeating the following for each display spectral band associated with the composite signal:

sending a display electrical signal to a display electro-optical element;

changing an optical property of the display electro-optical element in response to the display electrical signal to filter for a display spectral band; and

transmitting the display spectral band to a display; and

displaying the display spectral bands at the display to generate the image.

13. A logic for generating an image, the logic embodied in a medium and operable to:

receive light associated with a plurality of spectral bands;

repeat the following for each spectral band associated with the light:

receive an electrical signal at an electro-optical element;

change an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band; and

transmit the spectral band to a sensor;

sense the spectral bands at the sensor;

combine the spectral bands to generate a composite signal by accessing a function of the spectral bands and multiplexing the spectral bands in accordance with the function to combine the spectral bands, said function causing said spectral bands to be combined using at least one of: adding and weighted combining; and

generate an image from the composite signal,

wherein said medium comprises hardware.

14. The logic of Claim 13, wherein the electro-optical element comprises:

a first layer sensitive to a first spectral band of the spectral bands; and

a second layer sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first layer and to activate the second layer.

15. The logic of Claim 13, wherein the electro-optical element comprises:

a first section sensitive to a first spectral band of the spectral bands; and

a second section sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first section and to activate the second section.

17. The logic of Claim 13, wherein the sensor is synchronized with the electro-optical element, the sensor being operable to sense a spectral band when the spectral band arrives at the sensor from the electro-optical element.

18. The logic of Claim 13, operable to generate the image from the composite signal by:

receiving the composite signal, the composite signal associated with a plurality of display spectral bands;

repeating the following for each display spectral band associated with the composite signal:

sending a display electrical signal to a display electro-optical element;

changing an optical property of the display electro-optical element in response to the display electrical signal to filter for a display spectral band; and

transmitting the display spectral band to a display; and

displaying the display spectral bands at the display to generate the image.

19. A system for generating an image, comprising:

means for receiving light associated with a plurality of spectral bands;

means for repeating the following for each spectral band associated with the light:

receiving an electrical signal at an electro optical element;

changing an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band; and

transmitting the spectral band to a sensor;

means for sensing the spectral bands at the sensor;

means for combining the spectral bands to generate a composite signal, wherein the means for combining the spectral bands to generate the composite signal comprises:

means for accessing a function of the spectral bands; and

means for multiplexing the spectral bands in accordance with the function to combine the spectral bands, said function selected from a list consisting of: an adding function, a dividing function, and a weighting function; and

means for generating an image from the composite signal.

20. A method for generating an image, comprising:

receiving light associated with a plurality of spectral bands;

repeating the following for each spectral band associated with the light:

receiving an electrical signal at an electro optical element, the electro-optical element comprising a first layer sensitive to a first spectral band of the spectral bands, and comprising a second layer sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first layer and to activate the second layer, the electro-optical element further comprising a first section sensitive to a first spectral band of the spectral bands, and comprising a second section sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first section and to activate the second section;

changing an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band; and

transmitting the spectral band to a sensor;

sensing the spectral bands at the sensor, the sensor synchronized with the electro-optical element, the sensor being operable to sense a spectral band when the spectral band arrives at the sensor from the electro-optical element;

combining the spectral bands to generate a composite signal by accessing a function of the spectral bands, and by multiplexing the spectral bands in accordance with the function to combine the spectral bands, said function causing said spectral bands to be combined using at least one of: adding and weighted combining; and

generating an image from the composite signal by:

receiving the composite signal, the composite signal associated with a plurality of display spectral bands;

repeating the following for each display spectral band associated with the composite signal: sending a display electrical signal to a display electro-optical element, changing an optical property of the display electro-optical element in response to the display electrical signal to filter for a display spectral band, and transmitting the display spectral band to a display; and

displaying the display spectral bands at the display to generate the image.

21. The method of Claim 1, wherein said plurality of spectral bands comprises at least one spectral band of infrared light.

22. The system of Claim 7, wherein said plurality of spectral bands comprises at least one spectral band of a visible spectrum and at least one spectral band of infrared light.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.